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REMARKS/ARGUMENTS

Claims 1 – 4, 10 and 11 are now pending in the application. Claims 5 – 9 have been cancelled in response to an election requirement. New Claims 10 and 11 have been added and support can be found throughout the specification for the added claims. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

Rejection Under 35 U.S.C. § 112

Claim 2 stands rejected under 35 U.S.C. § 112, second paragraph. Applicant has made minor amendments to Claim 2 and, as such, Applicant believes that this rejection is now moot.

Rejections Under 35 U.S.C. § 103

Claims 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Foulke et al (U.S. Pat. No. 4,493,606) in view of Hayashi et al (U.S. Pat. No. JP 8-96471). This rejection is respectfully traversed.

Applicant respectfully submits that the Examiner has failed to establish a prima facie case of obviousness under 35 U.S.C. § 103(a), as all of the claimed limitations are neither taught nor suggested by the cited references. Claim 1 recites a rack for storage of multiple assemblies including side and bottom dunnage. Neither the Foulke nor the Hayashi references show, teach or suggest either side or bottom dunnage.

The Foulke reference relates to transfer of semiconductor wafers into quartz baskets for processing in a high heat diffusion furnace. (Col. 1, Lines 6 – 29). The Hayashi reference, on the other hand, relates to handling of compact discs, specifically detecting and avoiding placement of a disc in a slot already occupied by a disc. (East Abstract)

The Foulke reference fails to disclose, teach or suggest the use of dunnage, because the quartz box in the Foulke reference is constructed for use in a diffusion furnace during the creation of semiconductor wafers. The diffusion furnace requires temperatures that are well in excess of temperatures in which dunnage for automobile parts would survive. (Col. 3, Lines 33 – 39).

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Claim 1 also recites a compliant support between the robot arm and the tool and allowing limited compliant positioning of the tool by the component to allow low stress self-adjustment of the component position during loading of the component into the slots of the selected set. Applicant respectfully submits that compliant support is not disclosed, taught or suggested by either the Foulke or Hayashi references. Moreover, the Foulke and the Hayashi references fail to disclose, teach or suggest allowing limited compliant positioning of the tool by the component to allow low stress self-adjustment of the component position.

While the Foulke reference discloses a "soft placement" mechanism, the reference fails to disclose any sort of compliant support. (Col. 7, Lines 16 - 45; Fig. 16). The "soft placement" mechanism, unlike the apparatus recited in Claim 1, uses dampers and counterweights to slow upward and downward motion of the mechanism that picks up the wafers. This arrangement provides a specifically regulated and strict upward and downward motion along with a pre-determined placement force exerted on the wafers. (Col. 7, Lines 34 - 45).

Positioning of the wafers with respect to the slots, however, is not controlled by the "soft placement" mechanism. To that end, positioning of the wafers with respect to the slots is accomplished by the head of the robot swiveling in a y-direction. (Col. 7, Lines 6 - 15). By swiveling, the wafers are placed in the quartz basket without touching the sides of the slots with the wafers, which causes unwanted debris contamination. (Col. 1, Lines 6 - 29;).

As noted earlier, the intense heat of the diffusion furnace can warp the quartz basket such that the slots are no longer completely vertical. As such, the apparatus in the Foulke reference must account for the variable basket dimensions and misalignment, while avoiding all contact between the wafers and the slots of the basket. In contrast, Claim 1 recites a compliant support between the robot arm and the tool and allowing limited compliant positioning of the tool by the component to allow low stress self-adjustment of the component position during loading of the component into the slots of the selected set. Applicant respectfully submits that if the Foulke reference were to teach or suggest (which it does not) the limited compliant positioning as recited in Claim 1, the semiconductor wafers would contact the quartz basket and its respective slots. This contact would cause debris contamination. The Foulke reference, however, seeks to avoid wafer contact with the slots and the resulting unwanted debris contamination.

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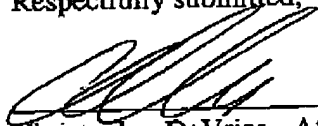
As such, the Foulke and Hayashi references, alone or in combination, fail to disclose or suggest all of the claimed limitations of Claim 1. Applicant, therefore, respectfully requests that the Examiner reconsider and withdraw the rejection of Claim 1. It is noted that Claims 2, 3, and 4 depend from Claim 1 and should be allowable for reasons set forth above for Claim 1.

Conclusion

It is believed that all of the stated grounds of rejection have been properly traversed or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this responsive amendment is respectfully requested.

If for some reason a fee needs to be paid, as well as the fee for a one-month extension of time, please charge Deposit Account No. 07-0960 for the fees, which may be due.

Respectfully submitted,



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